

Atty. Dkt. No. 10002404-3

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A printing device comprising:
a printer configured to print upon a medium;
a surface-engaging member associated with the printer and configured to physically engage a medium surface, the surface-engaging member comprising a flexure material body that is supported in a cantilevered disposition proximate a piece of medium to be printed upon by the printer;
a reflective member joined with the surface-engaging member;
one or more light sources in operable proximity to the reflective member and configured to project light energy toward the reflective member; and
a position detector mounted in operable proximity to the reflective member and configured to receive light energy that is reflected from the reflective member, the surface-engaging member being configured for displacement by the medium's surface in accordance with variations in the roughness of the surface sufficiently so that light that is reflected by the reflective member and received by the position detector can be utilized to ascertain a measure of the medium surface's roughness.
2. (Previously Presented) The printing device of claim 1 further comprising a control system configured to modulate one or more print parameters in accordance with the measure of the medium surface's roughness.
3. (Previously Presented) The printing device of claim 1 further comprising a parameter manipulator coupled with the position detector and configured to modulate one or more print parameters in accordance with the measure of the medium surface's roughness.

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4. (Original) The printing device of claim 1, wherein the flexure material body comprises a metal flexure material body.

5. (Original) The printing device of claim 1, wherein the flexure material body comprises first and second ends, the body tapering between the two ends.

6. (Currently Amended) A method of detecting the roughness of a medium surface comprising:

engaging a medium surface with a surface-engaging member;

projecting light energy towards a reflective member associated with the surface-engaging member in a manner in which the light energy is reflected by the reflective member;

receiving light energy that is reflected by the reflective member; and

ascertaining, from the received light energy, a roughness measurement of the medium surface's roughness; and

using the roughness measurement to adjust one or more printing parameters associated with a printer that is to print upon the medium's surface.

7. (Cancelled)

8. (Cancelled)

9. (Previously Presented) The printing device of claim 1, wherein the one or more light sources are configured to project visible light energy.

10. (Currently Amended) The printing device of claim 2, wherein the one or more print parameters are selected from a group of parameters consisting of:

fuser temperature, fusing time, fusing speed, toner concentration, toner developer voltage, toner transfer device voltage, and photosensitive surface charging device voltage.

11. (Currently Amended) The printing device of claim 3, wherein the one or more print parameters are selected from a group of parameters consisting of:

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~~fuser temperature, fusing time, fusing speed, toner concentration, toner developer voltage, toner transfer device voltage, and photosensitive surface charging device voltage.~~

12. (Previously Presented) The printing device of claim 1, wherein the position detector is sufficiently sensitive and is calibrated to detect movement of light reflected by the reflective member in response to minute displacements of the surface-engaging member as a result of variations in the roughness of the surface.

13. (Previously Presented) The method of claim 6, wherein the light energy projected towards the reflective member comprises a visual light.

14. (Currently Amended) The method of claim 6 ~~7~~, wherein the one or more printing parameters that are adjusted are selected from a group of parameters consisting of:

~~fuser temperature, fusing time, fusing speed, toner concentration, toner developer voltage, toner transfer device voltage, and photosensitive surface charging device voltage.~~

15. (Currently Amended) A surface roughness detection device comprising:

a surface-engaging member configured to physically engage a medium surface and to move in response to variations along the medium surface;

an electromagnetic radiation emitting device configured to direct electromagnetic radiation towards the surface-engaging member; and

a sensor configured to receive electromagnetic radiation reflected from the surface-engaging member, wherein the sensor is sufficiently sensitive so as to detect movement of the reflected electromagnetic radiation that occurs in response to movement of the surface-engaging member as a result of variations along the medium surface; and

a control system configured to modulate one or more print parameters based upon the detected movement of the electromagnetic radiation.

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16. (Previously Presented) The device of claim 15, wherein the surface-engaging member is cantilevered.

17. (Previously Presented) The device of claim 15, wherein the electromagnetic radiation source is configured to project light.

18. (Cancelled)

19. (Canceled)

20. (Currently Amended) The device of claim 15 49, wherein the one or more print parameters is selected from a group of parameters consisting of:

~~fuser temperature, fusing time, fusing speed, toner concentration, toner developer voltage, toner transfer device voltage, and photosensitive surface charging device voltage.~~

21. (Currently Amended) A printing device comprising:

a printer configured to print upon a medium;

a movable surface-engaging member associated with the printer and configured to physically engage a medium surface, ~~the surface-engaging member comprising a flexure material body that is supported in a cantilevered disposition proximate a piece of medium to be printed upon by the printer;~~

a reflective member joined with the surface-engaging member;

one or more light sources in operable proximity to the reflective member and configured to project light energy toward the reflective member; and

a position detector mounted in operable proximity to the reflective member and configured to receive light energy that is reflected from the reflective member, the surface-engaging member being configured for displacement by the medium's surface in accordance with variations in the roughness of the surface sufficiently so that light that is reflected by the reflective member and received by the position detector can be utilized to ascertain a measure of the medium surface's roughness, wherein the position detector is sufficiently sensitive and is calibrated to detect movement of light reflected by the reflective member in response to minute

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displacements of the surface-engaging member as a result of variations in the roughness of the surface; and

a parameter manipulator coupled with the position detector and configured to modulate one or more print parameters in accordance with the measure of the medium surface's roughness, wherein the one or more printing parameters that are adjusted are selected from a group of parameters consisting of:

fusing time, fusing speed, toner concentration, toner developer voltage, toner transfer device voltage, and photosensitive surface charging device voltage.